
A YlcXY'nUa YfYbY'dcfUVY'YbYf[]Y'df]bUY'Y_f] bc`ca fYj'Y'df]`1 Yb]`
[cgdX]b'g_]` bUdfUj U`nU\`UYb'YZ[`cVc_c`\`UYb'YZnUa fncj Ub'Y'hf'df]
_ca V]bUWY'U`h\`bUdfUj`g'df]dUXU'c`ja]`Uglbcgla]

Methods of measuring the energy consumption of electric mains operated household refrigerators, frozen food storage cabinets, food freezers and their combinations, together with associated characteristics

Verfahren zur Messung der Aufnahme elektrischer Energie und damit zusammenhängender Eigenschaften für netzbetriebene Haushalt-Kühlgeräte, Tiefkühlgeräte, Gefriergeräte und deren Kombinationen

[SIST EN 153:2006](#)

Méthodes de mesure de la consommation d'énergie électrique et des caractéristiques associées des réfrigérateurs, conservateurs de denrées congelées et congélateurs ménagers et de leurs combinaisons

Ta slovenski standard je istoveten z: EN 153:2006

ICS:

97.040.30 Hladilni aparati za dom Domestic refrigerating
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English Version

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This European Standard was approved by CEN on 28 December 2005.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This European Standard (EN 153:2006) has been prepared by Technical Committee CEN/TC 44 "Household refrigerating appliances and commercial refrigeration equipment", the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2006, and conflicting national standards shall be withdrawn at the latest by August 2006.

This European Standard supersedes EN 153:1995.

The significant changes compared to the document to be revised are the following:

- rated voltage to test the refrigerating appliances is changed from 220 V to 230 V;
- correction formula on the energy consumption measured value within the specified range of test temperature is changed from 24,5 °C to 25,5 °C;
- addition of a normative annex on built-in refrigerating appliances;
- addition of reference to Directives 94/2/EC and 92/75/EEC;
- editorial modifications to be consistent with EN ISO 15502.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

Energy saving is the most important parameter in the European plans for the reduction of the greenhouse effect. It is necessary to assess the energy saving by standardised methods of measurement of the energy consumption and of its associated characteristics.

In this context, reference to this European Standard is mentioned in the Commission's Directive 94/2/EC of 21 January 1994 as amended by Commission Directive 2003/66/EC of 3 July 2003[1] implementing Council Directive 92/75/EEC[2] with regard to energy labelling of household electric refrigerators, freezers and their combinations. This European Standard specifies the test method to be applied in accordance with these Directives. It also defines permitted tolerances to values declared by the manufacturer and control procedures for checking these declared values.

For household refrigerators, household frozen food storage cabinets and their combinations these methods are specified in EN ISO 15502. As EN ISO 15502 has a wider field of application, the revision of EN 153:1995 has become necessary to conform its requirements to the European Legislation on rational use of energy.

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1 Scope

This European Standard specifies the methods for measuring the energy consumption of electric mains operated household refrigerating appliances, together with associated characteristics.

This European Standard is not concerned with safety.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 15502:2005, *Household refrigerating appliances – Characteristics and test methods (ISO 15502:2005)*

3 Terms and definitions

For the purposes of this European Standard, terms and definitions given in EN ISO 15502:2005 apply.

4 Classification and symbols

For the purposes of this European Standard, the classification and symbols given in Clause 4 of EN ISO 15502:2005 apply.

5 Design

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For the purposes of this European Standard, 5.1 and 5.6 of EN ISO 15502:2005 shall apply.

6 Storage temperatures

For the purposes of this European Standard, Clause 6 of EN ISO 15502:2005 shall apply.

7 Determination of linear dimensions, volumes and areas

For the purposes of this European Standard, Clause 7 of EN ISO 15502:2005 shall apply.

8 General test conditions

For the purposes of this European Standard, Clause 8 of EN ISO 15502:2005 shall apply except for the following:

8.2 b): to be replaced by the following text:

b) for checking the energy consumption and if any temperature rise time, freezing capacity and ice-making capacity of all refrigerating appliances:

+25 °C for classes SN, class N, class ST and class T refrigerating appliances.

NOTE This is to enable direct comparison between all climate class refrigerating appliances.

8.6.3.1: to be replaced by the following text:

The refrigerating appliance with a rated voltage within the range between 220 V and 240 V shall be tested at 230 V $\pm 1\%$ with a frequency of 50 Hz $\pm 1\%$.

9 Testing the air-tightness of door, lid or drawer seal(s)

For the purpose of this European Standard, Clause 9 of EN ISO 15502:2005 does not apply.

10 Testing the opening force of doors or lids

For the purpose of this European Standard, Clause 10 of EN ISO 15502:2005 does not apply.

11 Testing the durability of doors, lids and drawers

For the purpose of this European Standard, Clause 11 of EN ISO 15502:2005 does not apply.

12 Testing the mechanical strength of shelves and similar components

For the purpose of this European Standard, Clause 12 of EN ISO 15502:2005 does not apply.

13 Testing the storage temperatures

For the purposes of this European Standard, Clause 13 of EN ISO 15502:2005 shall apply.

14 Water vapour condensation test

For the purposes of this European Standard, Clause 14 of EN ISO 15502:2005 does not apply.

15 Energy consumption test

For the purposes of this European Standard, Clause 15 of EN ISO 15502 shall apply except for the following:

15.1 *Note to 15.1 shall be deleted*

15.2.1 Replacement

The ambient temperature shall be in accordance with 8.2.

When the measured ambient temperature deviates from the nominal (+ 25 °C) ambient temperatures up to $\pm 0,5$ K, the following first order correction on the measured energy consumption shall be made:

$$P^{corr} = P^{meas} \left[\sum_{i=1}^n \frac{(25 - t_i) V_i}{(t_{aa} - t_i) V} \right]$$

where

P is the energy consumption [kW/24h];

t_i is the nominal compartment temperature, e.g. 5 °C (see Table 4);